

SEQUENCE LISTING

<110> AMGEN INC.
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<120> Monkey Immunoglobulin Sequences

<130> A-951 (WO)

<140> --to be assigned

<141> 2004-11-04

<150> US 60/517,970

<151> 2003-11-07

<160> 86

<170> PatentIn version 3.2

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<212> PRT

<213> Macaca fascicularis

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ser Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Ile Lys Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys
 100 105 110

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
 115 120 125

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Asp Val Lys
 145 150 155 160

Phe Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175

Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190

Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
210 215 220

Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
225 230 235 240

Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
245 250 255

Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
260 265 270

Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
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Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
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<212> PRT

<213> *Macaca fascicularis*

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35           40           45

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Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50           55           60

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Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65           70           75           80

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Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
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Thr Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
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Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 130 135 140

Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160

Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
 180 185 190

Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro
 195 200 205

Ala Pro Lys Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu
 210 215 220

Pro Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn
 225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
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Val Val Glu Trp Ala Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr
 260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
 275 280 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
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Ser Val Ser Pro Gly Lys
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1579

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<212> PRT

<213> Macaca fascicularis

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Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser
		35					40					45			

Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser
	50					55					60				

Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr
65					70					75					80

Tyr	Val	Cys	Asn	Val	Val	His	Glu	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys
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Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Thr	His	Gln	Asp	Trp	Leu
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Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn Gln
 225 230 235 240

Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile Ala
 245 250 255

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
 260 265 270

Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
 275 280 285

Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
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Leu Ser Pro Gly Lys
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 <212> PRT
 <213> *Macaca fascicularis*

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          20           25           30

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
          35           40           45

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Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
          50           55           60

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Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65           70           75           80

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Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Phe Thr Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu
 100 105 110

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 115 120 125

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 130 135 140

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 145 150 155 160

Glu Val His His Ala Gln Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser
 165 170 175

Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
 180 185 190

Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
 195 200 205

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 210 215 220

Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn Gln
 225 230 235 240

Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile Ala
 245 250 255

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
 260 265 270

Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
 275 280 285

Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
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Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
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Val Ser Pro Gly Lys
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1579

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
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Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Phe Thr Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu
 100 105 110

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 115 120 125

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 130 135 140

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
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Glu Val His His Ala Gln Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser
 165 170 175

Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
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Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro Ala
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Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
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Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn Gln
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Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile Ala
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Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
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Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
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Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
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Val Ser Pro Gly Lys
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 acagtcctca gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg 240
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 agttgagttc acacgcccac gtgatgacac aactccccca tgcccaccgt gccagcacc 360
 tgaactcctg gggggaccgt cagtcttcgt cttcccccca aaacccaagg acaccctcat 420
 gatctcccgg acccctgagg tcacgtgcgt ggtgggtggac gtgagccagg aagaccccga 480
 ggtccagttc aactggtacg tggacggcgt ggaggtgcac aatgcccaga cgaagccgcg 540
 ggagaggcag ttcaacagca catatcgtgt ggtcagcgtc ctcaccgtca cgcaccagga 600
 ctggctgaac ggcaaggagt acacgtgcaa ggtctccaac aaagccctcc cggcccccat 660

ccagaaaacc atctccaaag acaaagggca gccccgagag cctcaggtgt acaccctgcc 720
 cccgtcccgg gaggagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt 780
 ctaccccagc gacatcgctg tggagtggga gacgacggg cagccggaga acacctacaa 840
 gaccacgccc cccgtgctgg actccgacgg ctctacttc ctctacagca agctcacctg 900
 ggacaagagc aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct 960
 gcacaaccac tacaccaga agagcctctc cctgtctccg ggtaaagtag tcgacatgc 1019

<210> 12

<211> 335

<212> PRT

<213> *Macaca fascicularis*

<400> 12

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Val Ser
 1 5 10 15

Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val
 20 25 30

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
 35 40 45

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
 50 55 60

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
 65 70 75 80

Thr Gln Thr Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys
 85 90 95

Val Asp Lys Arg Val Glu Phe Thr Arg Pro Cys Asp Asp Thr Thr Pro
 100 105 110

Pro Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
 115 120 125

Phe Val Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 130 135 140

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu
 145 150 155 160

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Gln
165 170 175

Thr Lys Pro Arg Glu Arg Gln Phe Asn Ser Thr Tyr Arg Val Val Ser
180 185 190

Val Leu Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr
195 200 205

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile
210 215 220

Ser Lys Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
225 230 235 240

Pro Ser Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
245 250 255

Val Lys Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser
260 265 270

Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
275 280 285

Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
290 295 300

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
305 310 315 320

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330 335

<210> 13

<211> 1015

<212> DNA

<213> Macaca fascicularis

<400> 13

cgtctctagt ccaccaaggg cccatcggtc ttccccctgg tgtcctgctc caggagcacc	60
tccgagagca cagcggccct gggctgcctg gtcaaggact acttccccga acccgtgacc	120
gtgtcgtgga actcaggcgc cctgaccagc ggcgtgcaca ccttccccggc tgtcctacag	180
tcctcagggc tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttggggcacc	240
cagacctacg tctgcaacgt cgttcatgag ccagcaaca ccaaggtgga caagagagtt	300
gagttcacac gcccatgtga tgacacaact ccccatgcc caccgtgccc agcacctgaa	360

```

ctcctggggg gaccgtcagt cttcgtcttc cccccaaaac ccaaggacac cctcatgac 420
tcccggaccc ctgaggtcac gtgctgtgtg gtggacgtga gccaggaaga ccccgaggtc 480
cagttcaact ggtacgtgga cggcgcgagg gtgcatcatg cccagacgaa gccacgggag 540
acgcagtaca acagcacata tcgtgtgtgt agcgtcctca ccgtcacgca ccaggactgg 600
ctgaacggca aggagtacac gtgcaaggtc tccaacaaag ccctcccggc ccccatccag 660
aaaaccatct ccaaagacaa agggcagccc cgagagcctc aggtgtacac cctgcccccg 720
tcccgggagg agctgaccaa gaaccaggtc agcctgacct gcctgggtcaa aggcttctac 780
cccagcgaca tcgtcgtgga gtgggagagc agcgggcagc cggagaacac ctacaagacc 840
acgccgcccc tgctggactc cgacggctcc tacttcctct acagcaagct caccgtggac 900
aagagcaggt ggcagcaggg gaacgtcttc tcatgctccg tgatgcatga ggctctgcac 960
aaccactaca cccagaagag cctctccctg tctccgggta aatgagtcga catgc 1015

```

<210> 14

<211> 333

<212> PRT

<213> *Macaca fascicularis*

<400> 14

```

Arg Leu Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Val Ser Cys Ser
1           5           10           15

```

```

Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
          20           25           30

```

```

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
          35           40           45

```

```

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
          50           55           60

```

```

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
          65           70           75           80

```

```

Thr Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp
          85           90           95

```

```

Lys Arg Val Glu Phe Thr Arg Pro Cys Asp Asp Thr Thr Pro Pro Cys
          100           105           110

```

```

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Val
          115           120           125

```


Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 145 150 155 160

Phe Asn Trp Tyr Val Asp Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175

Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190

Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
 210 215 220

Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 225 230 235 240

Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 245 250 255

Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
 260 265 270

Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 290 295 300

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 305 310 315 320

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 15

<211> 1584

<212> DNA

<213> Macaca fascicularis

<400> 15

gcctccacca agggcccatc ggtcttcccc ctggcgctct gctccaggag cacctcccag

60

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agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaacccgt gaccgtgtcg 120
tggaactcag gcgccctgac cagcggcgtg cacaccttcc aggctgtcct acagtcctca 180
gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg cactcagacc 240
tacgtctgca acgtcgttca tgagcccagc aacaccaagg tggacaagac agttgggtgag 300
aggccagcga gggaaggggg gtgtctgctg gaagccaggc tcggccctcc tgcctggaca 360
aactctggct gtgcagcccc agcccagggc agcagggcag gcccgcgtctg tcttctcacc 420
cagaggcctc tgcccacccc actcatgctc agggagccag tcttctggct tttccacca 480
ggctctgagc aggcacaggc tggatgcccc taccacaggc cctgcacaca caggggcagg 540
tgctgggctc agacctgcca agagccatat ctgggaggac cctgccctga cctaagccca 600
cccaaaggc caaactccac tccctcagct cagacacctt ctctcctccc acatcccagt 660
aactcccaat cttctctctg cagggctccc atgtcgttcc acgtgccac cgtgcccagg 720
taagccagcc caggcctcac cctccagctc aaggtgggac aagcgcccta gagtggcctg 780
tgtccagga caggccctgc ccgggtgctg acacgtccac ctccatctct tcctcagctg 840
aactcctggg gggaccgtca gtcttctct tcccccaaa acccaaggac accctcatga 900
tttcccgac ccctgaggtc acgtgcgtgg tggtagacgt gagccaggaa gaacccgatg 960
tcaagttcaa ctggtacgtg gacggcgtgg aggtgcacaa tgcccagacg aagccacggg 1020
aggagcagtt caacagcacg taccgctgg tccagctcct caccgtcaca caccaggact 1080
ggctgaacgg caaggagtac acgtgcaagg tctccaacaa agccctcccg gcccacaaagc 1140
agaaaactgt ctccaaaacc aaaggtggga ccgcggggc acgagggcca cgtggacaga 1200
ggcgggtca gccacccctc tgccctggga gtgaccgctg tgccaacctc tgtccctaca 1260
gggcagcccc gagagccaca ggtgtacacc ctgccccgc cccgggagga gctgaccaag 1320
aaccaggta gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat cgtcgtggag 1380
tgggagagca gcgggcagcc ggagaacacc tacaagacca ccccgcccgt gctggactcc 1440
gacggctcct acttctctc cagcaagctc accgtggaca agagcaggtg gcagcagggg 1500
aacaccttct catgctccgt gatgcatgag gctctgcaca accactacac ccagaagagc 1560
ctctccgtgt ctccgggtaa atga 1584

```

<210> 16

<211> 326

<212> PRT

<213> *Macaca fascicularis*

<400> 16

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg
 1 5 10 15
 Ser Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30
 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45
 Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60
 Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80
 Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95
 Thr Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
 100 105 110
 Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125
 Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 130 135 140
 Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160
 Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175
 Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
 180 185 190
 Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro
 195 200 205
 Ala Pro Lys Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu
 210 215 220
 Pro Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn
 225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 245 250 255

Val Val Glu Trp Glu Ser Ser Gly Gln Pro Glu Asn Thr Tyr Lys Thr
 260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
 275 280 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
 290 295 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 305 310 315 320

Ser Val Ser Pro Gly Lys
 325

<210> 17
 <211> 1584
 <212> DNA
 <213> *Macaca fascicularis*

<400> 17
 gcctccacca agggcccatc ggtcttcccc ctggcgctct gctccaggag cacctcccag 60
 agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaacccgt gaccgtgtcg 120
 tggaactcag gcgcccgtgac cagcggcgctg cacaccttcc aggctgtcct acagtccctca 180
 gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240
 tacgtctgca acgtcgttca tgagcccagc aacaccaagg tggacaagag agttggtgag 300
 aggccagcga gggaaggggg gtgtctgctg gaagccaggc tcggccctcc tgccctggaca 360
 aactctggct gtgcagcccc agcccagggc agcagggcag gcccgtctg tctcctcacc 420
 cagaggcctc tgcccacccc actcatgctc agggagccag tcttctggct tttccacca 480
 ggctctgagc aggcacaggc tggatgcccc taccacaggc cctgcacaca caggggcagg 540
 tgctgggctc agacctgcca agagccatat ctgggaggac cctgccctga cctaagccca 600
 ccccaaaggc caaactccac tccctcagct cagacacctt ctctcctccc acatcccagt 660
 aactcccaat cttctctctg cagggctccc atgtcgttcc acgtgccac cgtgcccagg 720
 taagccagcc caggcctcac cctccagctc aagggtgggac aagcgcccta gagtggcctg 780
 tgtccaggga caggccctgc ccgggtgctg acacgtccac ctccatctct tcctcagctg 840
 aactcctggg gggaccgtca gtcttctct tcccccaaa acccaaggac accctcatga 900
 tttcccgga cctgaggtc acgtgcgtgg tggtagacgt gagccaggaa gaacccgatg 960

```

tcaagttcaa ctggtacgtg gacggcgtgg aggtgcacaa tgcccagacg aagccacggg 1020
aggagcagtt caacagcacg taccgctggg tcagcgtcct caccgtcaca caccaggact 1080
ggctgaacgg caaggagtac acgtgcaagg tctccaacaa agccctcccg gcccacaaagc 1140
agaaaaactgt ctccaaaacc aaaggtggga cccgcggggc acgagggcca cgtggacaga 1200
ggccgggtca gccaccctc tgccctggga gtgaccgtg tgccaacctc tgtccctaca 1260
gggcagcccc gagagccaca ggtgtacacc ctgccccgc cccgggagga gctgaccaag 1320
aaccagggtca gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat cgtcgtggag 1380
tgggcgagca acgggcagcc ggagaacacc tacaagacca ccccgcccgt gctggactcc 1440
gacggctcct acttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg 1500
aacaccttct catgctccgt gatgcatgag gctctgcaca accactacac ccagaagagc 1560
ctctccgtgt ctccgggtaa atga 1584

```

```

<210> 18
<211> 326
<212> PRT
<213> Macaca fascicularis

```

```

<400> 18

```

```

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg
1          5          10          15

```

```

Ser Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20          25          30

```

```

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35          40          45

```

```

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50          55          60

```

```

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65          70          75          80

```

```

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
85          90          95

```

```

Arg Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
100          105          110

```

```

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
115          120          125

```

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
130 135 140

Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
145 150 155 160

Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
180 185 190

Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro
195 200 205

Ala Pro Lys Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu
210 215 220

Pro Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn
225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
245 250 255

Val Val Glu Trp Ala Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr
260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
275 280 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
290 295 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
305 310 315 320

Ser Val Ser Pro Gly Lys
325

<210> 19

<211> 978

<212> DNA

<213> Macaca fascicularis

<400> 19

tccaccaagg gcccatcggt cttccccctg gcgtcctgct ccaggagcac ctcccagagc

60

```

acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccctgtgac cgtgtcgtgg      120
aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtcctcaggg      180
ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttggggcac ccagacctac      240
gtctgcaacg tcgttcatga gccagcaac accaagggtgg acaagacagt tgggctccca      300
tgctgttcca cgtgcccacc gtgcccagct gaactcctgg ggggaccgtc agtcttcttc      360
ttccccccaa aacccaagga caccctcatg atttcccgga cccctgaggt cacgtgcgtg      420
gtggtggacg tgagccagga agaaccgat gtcaagttca actggtacgt ggacggcgtg      480
gaggtgcaca atgcccagac aaagccgagg gaggagcagt tcaacagcac gtatcgctg      540
gtcagcgtcc tcaccgtcac acaccaggac tggctgaacg gcaaggagta cacgtgcaag      600
gtctccaaca aagccctccc ggccccaagg cagaaaactg tctccaaaac caaagggcag      660
ccccgagagc cgcagggtga caccctgccc ccgccccggg aggagctgac caagaaccag      720
gtcagcctga cctgcctgat caaaggcttc taccacagcg acatcgtcgt ggagtgggag      780
agcaacgggc agccggagaa cacctacaag accacgccgc ccgtgctgga ctccgacggc      840
tcctacttcc tctacagcaa gtcaccgtg gacaagagca ggtggcagca ggggaacacc      900
ttctcatgct ccgtgatgca tgaggctctg cacaaccact acaccagaa gagcctctcc      960
ctgtctccgg gtaaata      978

```

```

<210> 20
<211> 325
<212> PRT
<213> Macaca fascicularis

```

```

<400> 20

```

```

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg Ser
1           5           10           15

```

```

Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
          20           25           30

```

```

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
          35           40           45

```

```

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
          50           55           60

```

```

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
65           70           75           80

```

Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys Thr
 85 90 95
 Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu Leu
 100 105 110
 Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 115 120 125
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 130 135 140
 Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 145 150 155 160
 Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 165 170 175
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp Leu
 180 185 190
 Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 195 200 205
 Pro Arg Gln Lys Thr Val Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro
 210 215 220
 Gln Val Tyr Thr Leu Pro Pro Pro Arg Glu Glu Leu Thr Lys Asn Gln
 225 230 235 240
 Val Ser Leu Thr Cys Leu Ile Lys Gly Phe Tyr Pro Ser Asp Ile Val
 245 250 255
 Val Glu Trp Ala Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr Thr
 260 265 270
 Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys Leu
 275 280 285 ,
 Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys Ser
 290 295 300
 Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 305 310 315 320

Leu Ser Pro Gly Lys
325

<210> 21
<211> 1584
<212> DNA
<213> *Macaca fascicularis*

<400> 21
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tggaactcag gcgccctgac cagcggcgctg cacaccttcc aggctgtcct acagtccctca 180
gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagagacc 240
tacgtctgca acgtcgttca tgagcccagc aacaccaagg tggacaagag agttgggtgag 300
aggccagcga ggggaggggg gtgtctgctg gaagccaggc tcggccctcc tgctgggaca 360
aactctggct gtgcagcccc agcccagggc agcagggcag gccccgtctg tctcctcacc 420
cagaggcctc tgcccacccc actcatgctc agggagccag tcttctggct ttttccacca 480
ggctctgagc aggcacaggc tggatgcccc taccacaggc cctgcacaca caggggcagg 540
tgctgggctc aggcctgcca agagccatat ctgggaggac cctgccctga cctaagccca 600
cccaaaggc caaactccac tccctcagct cagacacctt ctctcctccc acatcccagt 660
aactcccaat cttctctctg cagggctccc atgtcgttcc acgtgccac cgtgcccagg 720
taagccagcc caggcctcac cctccagctc aaggtgggac aagcgcccta gagtggcctg 780
tgtccaggga caggccctgc cgggtgctg acacgtccac ctccatctct tcctcagctg 840
aactcctggg gggaccgtca gtcttctct tcccccaaa acccaaggac accctcatga 900
tttcccgga cctgaggtc acgtgcgtgg tggtagacgt gagccaggaa gaacccgatg 960
tcaagttcaa ctggtacgtg gacggcgctg aggtgcacaa tgcccagacg aagccacggg 1020
aggagcagtt caacagcacg taccgcgtgg tcagcgtcct caccgtcaca caccaggact 1080
ggctgaacgg caaggagtac acgtgcaagg tctccaacaa aggcctcccg gccccatcg 1140
agaaaaccat ctcaaagcc aaaggtggga ccgcggggc ccgagggccca cgtggacaga 1200
ggccggctca gccaccctc tgccctggga gtgaccgctg tgccaacctc tgteccctaca 1260
gggcagcccc gagagccgca ggtgtacatc ctgccccgc cccaggagga gctgaccaag 1320
aaccaggtca gcctgacctg cctggtcaca ggcttctacc ccagcgacat cgccgtggag 1380
tgggagagca acgggcagcc ggagaacacc tacaagacca cccgcccgt gctggactcc 1440
gacggctcct acttctctta cagcaagctc atcgtggaca agagcaggtg gcagcagggg 1500
aacaccttct catgctccgt gatgcatgag gctctgcaca accactacac ccagaagagc 1560

ctctccgtgt ctccgggtaa atga

1584

<210> 22

<211> 326

<212> PRT

<213> Macaca fascicularis

<400> 22

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Ser Cys Ser Arg
 1 5 10 15

Ser Thr Ser Gln Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Gln Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Val Cys Asn Val Val His Glu Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Gly Leu Pro Cys Arg Ser Thr Cys Pro Pro Cys Pro Ala Glu
 100 105 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 130 135 140

Val Ser Gln Glu Glu Pro Asp Val Lys Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160

Val Glu Val His Asn Ala Gln Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Thr His Gln Asp Trp
 180 185 190

Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val Ser Asn Lys Gly Leu Pro
 195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 210 215 220

Pro Gln Val Tyr Ile Leu Pro Pro Pro Gln Glu Glu Leu Thr Lys Asn
 225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Thr Gly Phe Tyr Pro Ser Asp Ile
 245 250 255

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Thr Tyr Lys Thr
 260 265 270

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Leu Tyr Ser Lys
 275 280 285

Leu Ile Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Thr Phe Ser Cys
 290 295 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 305 310 315 320

Ser Val Ser Pro Gly Lys
 325

<210> 23
 <211> 996
 <212> DNA
 <213> *Macaca fascicularis*

<400> 23
 gcctccacca agggcccatc ggtcttcccc ctggcgccct cctccaggag cacctccgag 60
 agcacagcgg ccctgggctg cctgggtcaag gactacttcc ctgaaccctg gaccgtgtcg 120
 tggaactcag gctccctgac cagcggcggtg cacaccttcc cggctgtcct acagtctctca 180
 gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240
 tacgtctgca acgtaaacca caagcccagc aacaccaagg tggacaagag agttgagata 300
 acatgtggtg gtggcagcaa acctcccacg tgcccaccgt gccagcacc tgaactcctg 360
 gggggaccgt cagtcttctt cttcccccca aaaccaagg acaccctcat gatctcccgg 420
 acccctgagg tcacgtgcgt ggtggtagac gtgagccagg aagaccccga tgtcaagttc 480
 aactggtacg taaatggcgc ggaggtgcat catgcccaga cgaagccacg ggagacgcag 540
 tacaacagca catatogtgt ggtcagcgtc ctcaccgtca cgcaccagga ctggctgaac 600
 ggcaaggagt acacgtgcaa ggtctccaac aaagccctcc cggcccccat ccagaaaacc 660

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atctccaaag acaaagggca gccccgagag cctcaggtgt acaccctgcc cccgtcccgg 720
gaggagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctaccccagc 780
gacatcgctg tggagtggga gagcagcggg cagccggaga acacctacaa gaccaccccg 840
cccgtgctgg actccgacgg ctctacttct ctctacagca agctcacctg ggacaagagc 900
agggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac 960
tacaccaga agagcctctc cctgtctccg ggtaaa 996

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<210> 24

<211> 332

<212> PRT

<213> *Macaca fascicularis*

<400> 24

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Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Arg
1           5           10           15

```

```

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
          20           25           30

```

```

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ser Leu Thr Ser
          35           40           45

```

```

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50           55           60

```

```

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65           70           75           80

```

```

Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
          85           90           95

```

```

Arg Val Glu Ile Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys Pro
          100           105           110

```

```

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
          115           120           125

```

```

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
          130           135           140

```

```

Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Asp Val Lys Phe
145           150           155           160

```

Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys Pro
 165 170 175

Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 180 185 190

Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys Val
 195 200 205

Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys Asp
 210 215 220

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
 225 230 235 240

Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
 245 250 255

Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln Pro
 260 265 270

Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 275 280 285

Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 290 295 300

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
 305 310 315 320

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 25
 <211> 999
 <212> DNA
 <213> Macaca fascicularis

<400> 25
 gcctccacca agggcccatc ggtcttcccc ctggcgccct cctccaggag cacctccgag 60
 agcacagcgg ccctgggctg cctgggtcaag gactacttcc ctgaaccgt gaccgtgtcg 120
 tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtctca 180
 gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240
 tacgtctgca acgtaaacca caagcccagc aacaccaagg tggacaagag agttgagata 300
 aaaacatgtg gtggtggcag caaacctccc acgtgcccac cgtgcccagc acctgaactc 360

```

ctgggggggac cgtcagtctt cctcttcccc ccaaaaccca aggacaccct catgatctcc 420
cggacccctg aggtcacatg cgtggtggtg gacgtgagcc aggaagaccc cgaggtccag 480
ttcaactggt acgtaaacgg cgcgagggtg catcatgccc agacgaagcc acgggagacg 540
cagtacaaca gcacgtaccg cgtggtcagc gtcctcaccg tcacacacca ggactggctg 600
aacggcaagg agtacacgtg caaggtctcc aacaaagccc tcccggcccc catccagaaa 660
accatctcca aagacaaagg gcagccccga gagcctcagg tgtacaccct gccccgtcc 720
cgggaggagc tgaccaagaa ccaggtcagc ctgacctgcc tggtaaagg cttctacccc 780
agcgacatcg tcgtggagtg ggagagcagc gggcagccgg agaacaccta caagaccacc 840
ccgcccgtgc tggactccga cggctcctac ttcctctaca gcaagctcac cgtggacaag 900
agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcattgaggc tctgcacaac 960
cactacaccc agaagagcct ctccctgtct ccgggtaaa 999

```

```

<210> 26
<211> 333
<212> PRT
<213> Macaca fascicularis

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```

<400> 26

```

```

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Arg
1          5          10          15

```

```

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20          25          30

```

```

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35          40          45

```

```

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50          55          60

```

```

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65          70          75          80

```

```

Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85          90          95

```

```

Arg Val Glu Ile Lys Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys
100          105          110

```

```

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
115          120          125

```

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 145 150 155 160

Phe Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175

Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190

Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
 210 215 220

Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 225 230 235 240

Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 245 250 255

Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
 260 265 270

Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 290 295 300

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 305 310 315 320

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 27

<211> 999

<212> DNA

<213> *Macaca fascicularis*

<400> 27

gcctccacca agggcccacg ggtcttcccc ctggcgccct cctccaggag cacctccgag

60

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agcacagcgg ccctgggctg cctgggtcaag gactacttcc ctgaaccctg gaccgtgtcg      120
tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca      180
gggctctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc      240
tacgtctgca acgtaaacca caagcccagc aacaccaagg tggacaagag agttgagata      300
aaaacatgtg gtggtggcag caaacctccc acgtgcccac cgtgcccagc acctgaactc      360
ctgggggggac cgtcagtctt cctcttcccc ccaaaaccca aggacaccct catgatctcc      420
cggacccttg aggtcacatg cgtgggtgtg gacgtgagcc aggaagacc cagaggtccag      480
ttcaactggt acgtaaacgg cgcggtggtg catcatgccc agacgaagcc acgggagacg      540
cagtacaaca gcacgtaccg cgtgggtcagc gtcctcaccg tcacacacca ggactggctg      600
aacggcaagg agtacacgtg caaggtctcc aacaaagccc tcccggcccc catccagaaa      660
accatctcca aagacaaagg gcagccccga gagcctcagg tgtacacct gcccccgtcc      720
cgggaggagc tgaccaagaa ccaggtcagc ctgacctgcc tgggtcaaagg cttctacccc      780
agcgacatcg tcgtggagtg ggagagcagc gggcagccgg agaacaccta caagaccacc      840
ccgcccgtgc tggactccga cggctcctac ttcctctaca gcaagctcac cgtggacaag      900
agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcattgaggc tctgcacaac      960
cactacaccc agaagagcct ctccctgtct ccgggtaaa                               999

```

<210> 28

<211> 333

<212> PRT

<213> *Macaca fascicularis*

<400> 28

```

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Arg
1           5           10          15

```

```

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
          20          25          30

```

```

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
          35          40          45

```

```

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
          50          55          60

```

```

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65          70          75          80

```


Tyr Val Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Arg Val Glu Ile Lys Thr Cys Gly Gly Gly Ser Lys Pro Pro Thr Cys
 100 105 110

Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu
 115 120 125

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
 130 135 140

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
 145 150 155 160

Phe Asn Trp Tyr Val Asn Gly Ala Glu Val His His Ala Gln Thr Lys
 165 170 175

Pro Arg Glu Thr Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
 180 185 190

Thr Val Thr His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Thr Cys Lys
 195 200 205

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Gln Lys Thr Ile Ser Lys
 210 215 220

Asp Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
 225 230 235 240

Arg Glu Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
 245 250 255

Gly Phe Tyr Pro Ser Asp Ile Val Val Glu Trp Glu Ser Ser Gly Gln
 260 265 270

Pro Glu Asn Thr Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
 275 280 285

Ser Tyr Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
 290 295 300

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 305 310 315 320

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 29
 <211> 324
 <212> DNA
 <213> Macaca fascicularis

<400> 29
 cgcgctgtgg ctgcaccatc tgtcttcac ttcccgccat ctgaggatca ggtgaaatct 60
 ggaactgtct ctgtgtgtg cctgctgaat aacttctatc ccagagaggc cagcgtaaag 120
 tggaaggtgg atggtgtcct caaaacgggt aactcccagg agagtgtcac agagcaggac 180
 agcaaggaca acacctacag cctgagcagc accctgacgc tgagcagcac agactaccag 240
 agtcacaatg tctatgcctg cgaagtcacc catcagggcc tgagctcgcc cgtcaccaag 300
 agcttcaaca gaggagagtg ttag 324

<210> 30
 <211> 107
 <212> PRT
 <213> Macaca fascicularis

<400> 30

Arg Ala Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Glu Asp
 1 5 10 15

Gln Val Lys Ser Gly Thr Val Ser Val Val Cys Leu Leu Asn Asn Phe
 20 25 30

Tyr Pro Arg Glu Ala Ser Val Lys Trp Lys Val Asp Gly Val Leu Lys
 35 40 45

Thr Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Asn
 50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Ser Thr Asp Tyr Gln
 65 70 75 80

Ser His Asn Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 100 105

<210> 31
 <211> 20
 <212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 31

gcctccacca agggccctcg

20

<210> 32

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 32

tttacccgga gacagggaga g

21

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 33

gcctccacca agggccctcg

20

<210> 34

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 34

tttacccgga gacagggaga g

21

<210> 35

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 35

gtcacatggc accacctctc t

21

<210> 36

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 36

ggtacgtgcc aagcatcctc g

21

<210> 37

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 37

ctggcgctcct gctccaggag c

21

<210> 38

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 38

gctcctggag caggacgcc a g

21

<210> 39

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 39

gctagcacca agggcccatc ggtctt

26

<210> 40

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 40

aactgtcttg tcgaccttg tggtg

25

<210> 41

<211> 25

<212> DNA

<213> Artificial Sequence

<220>
<223> Primer

<400> 41
caacaccaag gtcgacaaga gagtt 25

<210> 42
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 42
gcggccgctc atttaccgg agacacggag 30

<210> 43
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 43
cgtctctagt gcctccacca agggcccatc 30

<210> 44
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 44
gcatgtcgac tcatttacc ggagacaggg agag 34

<210> 45
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 45
atcaaacgag ctgtggctgc acca 24

<210> 46
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 46

caggtggggg cacttctccc t

21

<210> 47

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 47

gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60

tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120

ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180

gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240

caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300

tactttgact actggggcca gggaaccctg gtcaccgtct cctca 345

<210> 48

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 48

gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60

tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120

ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180

gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240

caaatgaaca gcctgagtgc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300

tacttcaccc actggggcca gggaaccctg gtcaccgtct cctca 345

<210> 49

<211> 347

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 49

gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60

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tcctgtgcag gctctggatt caccttcagt agaaatgcta tggtctgggt tcgccaggct    120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca    180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt    240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac    300
tggtacaaca actggggcca gggaaccctg gtcaccgtct cctcaca                    347

```

<210> 50
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

```

<400> 50
gaggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc    60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tggtctgggt tcgccaggct    120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca    180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt    240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac    300
tacttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca                    345

```

<210> 51
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

```

<400> 51
gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc    60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tggtctgggt tcgccaggct    120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca    180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt    240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac    300
tacttcacga ggtggggcca gggaaccctg gtcaccgtct cctca                    345

```

<210> 52
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 52
gaggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggtaccctg ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 53

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 53
gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggtaccctg ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 54

<211> 345

<212> DNA

<213> Artificial Sequence;

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 54
gaggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
tggttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 55

<211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 55
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tggtctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
 tggttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 56
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 56
 gaggttcagt tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tggtctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aaactatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
 tgggtaccctg ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 57
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 57
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tggtctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300

345

tggtaccgt ggtggggcca ggaaccctg gtcaccgtct cctca

<210> 58
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 58
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
 tacttcccgt ggtggggcca ggaaccctg gtcaccgtct cctca 345

<210> 59
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 59
 gaggttcagc tgggtgcagtc tgggggaggc ttggtacatc ctgggggggtc cctgagactc 60
 tcctgtgcag gctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120
 ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
 gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
 caaatgaaca gcctgagagc cgaggacatg gctgtgtatt actgtgcaag agggaggtac 300
 tacttcccgt ggtggggcca ggaaccctg gtcaccgtct cctca 345

<210> 60
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 60
 gaggttcagt tgggtggagt tgggggaggc ttggtacagc ctgggggggtc cctgagactc 60
 tcctgtgcag cctctggatt caccttcagt agaaatgcta tgttctgggt tcgccaggct 120

ccaggaaaag gtctggagtg ggtatcaggt attggtactg gtggtgccac aagctatgca 180
gactccgtga agggccgatt caccatctcc agagacaatg ccaagaactc cttgtatctt 240
caaataaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcaag agggaggtac 300
tacttcccgt ggtggggcca gggaaccctg gtcaccgtct cctca 345

<210> 61
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R
<400> 61

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 62
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R
<400> 62

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80,

Gln Met Asn Ser Leu Ser Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Thr His Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 63

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 63

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Asn Asn Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 64
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 64

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 65
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 65

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Tyr Phe Thr Arg Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 66

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 66

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser

<210> 67

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 67

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 68

<211> 115

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 68

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 69
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 69

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 70
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 70

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Asn Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 71
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 71

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Trp Tyr Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 72
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R
 <400> 72

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
 115

<210> 73
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 73

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Ser Arg Asn
 20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
 50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
 65 70 75 80

Gln Met Asn Ser Leu Ser Ala Glu Asp Met Ala Val Tyr Tyr Cys Ala
 85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ser
115

<210> 74
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R
<400> 74

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Asn
20 25 30

Ala Met Phe Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Thr Gly Gly Ala Thr Ser Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Gly Arg Tyr Tyr Phe Pro Trp Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 75
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 75
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcagctact tagcctggta ccagcagaaa 120

cctggccagg ctcccaggct cctcatcttt ggtgcatcca gcagggccac tggcatccca 180
 gacagggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcagtgtg ttactgtcag cagtatggta gtcacctcc gtggacgttc 300
 ggccaaggga ccaaggtgga aatcaaa 327

<210> 76
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 76
 gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttagc aacagctact tagcctggta ccagcagaaa 120
 cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggcccc tggcatccca 180
 gacagggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcagtgtg ttactgtcag cagtatgatc actcagcagg gtggacgttc 300
 ggccaaggga ccaaggtgga gatcaaa 327

<210> 77
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 77
 gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccggggga aagagccacc 60
 ctctcctgca gggccagtca gactgttaac agcgactact tagcctggta ccagcagaaa 120
 ccggggcagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
 gacagggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcagtcta ttactgtcag cagtatggta ggtcacctcc gtggacgttc 300
 ggccaaggga ccaaagtgga tatcaaa 327

<210> 78
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 78
 gaaattgtga tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttagc agcgactact tagcctggta ccagcagaaa 120
 cctggccagg ctcccaggct cctcatctat ggtgcatcta gcagggcctc tggcatccca 180
 gacaggttca gtggcagtgg gtttgggaca gacttcactc tcaccatcag cagactggag 240
 cctgaagatt ttgcaatata ttactgtcag cagtatggta gtcacacctc gtggacgttc 300
 ggccaaggga ccaaggtgga aatcaaa 327

<210> 79
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 79
 gatattgtgc tgaccagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttaac agcaactact tagcctggta ccagcagaaa 120
 cctggccagg ctcccaggct cctcatctat ggtacatcct acagggccac tggcatccca 180
 gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcac cagactggag 240
 cctgaagatt ttgcagtgta ttactgtcag cagtatggta gtcaccacc gtggacgttc 300
 ggccaaggga cagactgga gattaata 327

<210> 80
 <211> 327
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Antibody variable domain sequences that recognize anti IL-4R

<400> 80
 gatattgtgc tgacgcagac tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagtgttggc agcagctact tagcctggta ccagcagaga 120
 cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatcccg 180
 gacaggttca gtggcagtgg gtctgggaca gacttcactc tcacgatcag cagactggag 240
 cctgaagatt ttgcagtgta ttattgtcag cagtatggaa gttcacctcc gtggatgttc 300
 ggccaaggga ccaaggtgga gatcaaa 327

<210> 81
 <211> 109
 <212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 81

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Phe Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 82

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 82

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Pro Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp His Ser Ala
85 90 95

Gly Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 83

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 83

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Thr Val Asn Ser Asp
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Arg Ser Pro
85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys
100 105

<210> 84

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 84

Glu Ile Val Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asp
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Ser Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
 85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 85

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 85

Asp Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Ser Asn
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Thr Ser Tyr Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
 85 90 95

Pro Trp Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 86

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody variable domain sequences that recognize anti IL-4R

<400> 86

Asp Ile Val Leu Thr Gln Thr Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Ser Ser
 20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Arg Pro Gly Gln Ala Pro Arg Leu Leu
 35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
 65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
 85 90 95

Pro Trp Met Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105